

EXHIBIT 1

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IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND
NORTHERN DIVISION

WILLIAM LOCKWOOD,

Plaintiff

Civil Action No.

v.

PACIFIC USA, LTD., PACIFIC CYCLE, LLC
and TOYS "R" US - DELAWARE, INC.

WMN-02-CV-2068

Defendants.

AFFIDAVIT OF NAOJI TANAKA

I, NAOJI TANAKA, the undersigned, do solemnly affirm that:

1. I am over 18 years of age, fully competent to testify as a witness, and have first-hand knowledge of the matters set forth in this affidavit.
2. I currently am employed by SR Suntour, Inc. (SR Suntour) in the position of engineering development, which I have held since 1995.
3. As engineering development I am responsible for production of the various bicycle forks manufactured by SR Suntour.
4. The SR Suntour Duo Track 7006 model fork used in the Pacific Cycle Strike Mountain Bike that is the subject of this litigation was designed and manufactured using a mechanical bond fit to secure the steel steerer tube to the aluminum alloy fork crown.
5. At the relevant time it was, and is still is within the industry standard to design a fork using a mechanical bond fit to secure a steel steerer tube into a aluminum alloy fork crown. This is one of multiple acceptable designs for a bicycle fork component.

6. SR Suntour has manufactured 8000,000 forks using the same mechanical bond fit as that used for the SR Suntour Duo Truck 7006 model, and none have been the subject of safety recall or demonstrated a history of fork failure or fork eye/stem/wheel joint separations.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on Mar 14 - 2003
[date]

Naaji Iamaka
[signature]

EXHIBIT 2

CERTIFIED COPY

LOCKWOOD VS. PACIFIC CYCLE, LLC, ET AL.

DEPOSITION OF ROBERT W. HINTON

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**CONDENSED TRANSCRIPT AND CONCORDANCE
PREPARED BY:**

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XMAA(3/6)

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- (1) Q. So in this case we got the steel tube
 (2) going into the aluminum fork crown.
 (3) A. That's correct.
 (4) Q. All right. And so what would expand in a
 (5) thermal bond?
 (6) A. Well, in the thermal bond you would heat
 (7) the crown fork to a higher temperature. You might
 (8) heat it up to 200 degrees Fahrenheit. And that would
 (9) expand the crown fork further, and because the tube is
 (10) an oversize tube, then you might be able to make the
 (11) fit without mechanical force or pressing. In other
 (12) words it might actually fall into the -- into the --
 (13) Q. Okay. And then what happens when the
 (14) temperature becomes lower?
 (15) A. When the temperature goes down, then
 (16) there's a shrinkage of the alloy, and now you get the
 (17) interference fit, which means the crown diameter is
 (18) smaller than the tube diameter, and therefore it is
 (19) gripping the tube mechanically. It's -- both are a
 (20) mechanical fit. It's just in the manner that it's
 (21) made.
 (22) Q. Do you have any knowledge as to industry
 (23) standards as far as manufacturing forks, as to whether
 (24) a press fit or else a thermal bonding is utilized
 (25) within the bicycle industry?

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- (1) A. Well, it's just the thermal expansion, to
 (2) also make a mechanical fit. But no, I don't have any
 (3) direct knowledge of the actual manufacturing
 (4) techniques. In the case of a thin-wall tube, in an
 (5) item this small, a mechanical press fit is probably
 (6) how they made it. But I'm only guessing at that.
 (7) Q. Outside of the bicycle industry if I could
 (8) use that phrase, are there other industries that use
 (9) mechanical press fits or else thermal bonding or both?
 (10) A. Well, as you go to larger sizes and solid
 (11) inside diameters -- the answer is yes. There are
 (12) other industries. When you have small items,
 (13) especially thin-walled items, press fit is usually --
 (14) small diameter meaning probably less than an inch,
 (15) inch and a half in diameter, press fit is used because
 (16) the forces required to put it together are not that
 (17) high. They may be thousands of pounds at the most.
 (18) But it can be done in a practical manner.
 (19) When you go to solid materials that
 (20) are fairly large -- large meaning something solid
 (21) maybe 1 and a half inches or more, all the way up to
 (22) as much as 5 or 6 feet in diameter. Now, that's where
 (23) I have a lot of experience in making interference
 (24) fits. You use thermal expansion of the outside
 (25) component.

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- (1) You normally use like materials,
 (2) steel to steel or aluminum to aluminum, whatever, but
 (3) you normally use like materials because you want to
 (4) match the expansion coefficients and you want to match
 (5) the elastic coefficients. And there you do heat the
 (6) outside diameter component, frequently to a fairly
 (7) high temperature. There you can work to five or six
 (8) hundred Fahrenheit.
 (9) Q. But do other industries join together
 (10) dissimilar materials? Metals?
 (11) A. Not very often, because we -- I mean it's
 (12) possible. But if it's dissimilar, usually -- for
 (13) example, a nickel-base outside diameter, on let's say
 (14) a roller. A nickel-base outside diameter has a
 (15) similar modulus and thermal expansion coefficient to
 (16) let's say an inside arbor, steel arbor. And therefore
 (17) you're not mismatching either the elastic constants or
 (18) the thermal expansion coefficients.
 (19) I really have never seen in -- and
 (20) again I have, you know, no manufacturing background in
 (21) bicycles. In the heavier industry that I work in most
 (22) of the time, I have not seen anybody try to
 (23) shrink-fit, press-fit, thermal-expand-fit aluminum
 (24) over steel.
 (25) Q. If in fact they had used steel in the fork

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- (1) crown in this case, that would have made the bicycle
 (2) heavier I take it?
 (3) A. Well, probably, yes. Because the density
 (4) of steel is quite a bit higher than aluminum as you
 (5) know.
 (6) Q. I believe you have a copy of Mr. Tanaka's
 (7) affidavit.
 (8) A. Yes.
 (9) Q. Could you take a look at paragraph 5 of
 (10) the affidavit?
 (11) MR. SMITH: Do you want a copy?
 (12) A. I have it in here. I must have rearranged
 (13) it.
 (14) Q. First of all, Mr. Tanaka's affidavit
 (15) indicates that he has experience in the production,
 (16) does he not? That apparently you do not have, is that
 (17) correct?
 (18) MR. SMITH: Objection.
 (19) MR. LOPATA: I don't have it in
 (20) front of me. What does it say in the beginning?
 (21) MR. SMITH: Here. Do you want a
 (22) copy?
 (23) MR. LOPATA: Yeah.
 (24) BY MR. LOPATA:
 (25) Q. Paragraph 3 says he as engineering -- "As

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(1) A. Well, on the engineering drawing there
 (2) would be complete dimensions. Now, I'm quite sure
 (3) from what I've read in this that it's a 1-inch
 (4) diameter or 25.4-millimeter fork steerer tube. But on
 (5) the engineering drawing you should have more details,
 (6) such as the interference fit specification, which
 (7) would be the oversize tube to probably a
 (8) ten-thousandths of an inch tolerance and the undersize
 (9) fork crown hole also to a ten-thousandths of an inch
 (10) oversize in order to get the interference.

(11) That would be very important to make
 (12) any calculations for example of the actual fit
 (13) strength. Although it would be defective because the
 (14) tube is thin; thin-walled rather than solid. If the
 (15) tube were solid, I could actually make a very good
 (16) estimate of the joint strength.

(17) Q. Well, you were advised by Mr. Schubert
 (18) that they don't have solid tubes.

(19) A. No.

(20) Q. Correct?

(21) A. That's correct, yes. I think my old
 (22) bicycle when I was very young probably had a solid
 (23) tube.

(24) Q. But you're not even sure of that. Right?

(25) A. No, not anymore.

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(1) Q. All right. So assuming you got all this
 (2) information that you said that you requested of the
 (3) manufacturer, then that would only tell you what the
 (4) strength of the bond was?

(5) A. It would allow me to estimate the strength
 (6) of the bond. Actual testing would have to be done in
 (7) order to really get a good statistical measurement of
 (8) bond strength, as I mentioned before it would have to
 (9) be a statistical measurement, of a number of samples.

(10) Q. What would be an acceptable bond strength
 (11) estimate? When you're dealing with an aluminum and a
 (12) steel.

(13) A. All right. What I would consider a bare
 (14) minimum strength would probably be, where I could
 (15) calculate the bond strength, a solid tube in - a
 (16) solid steel tube in the aluminum to at least give me a
 (17) number. Now, I have not made a calculation. But that
 (18) would be at least my beginning consideration of bond
 (19) strength.

(20) Q. And that would tell you what? When you
 (21) made your beginning calculations about the bond
 (22) strength, that would tell you what?

(23) A. Well, that would give me an idea of both
 (24) the torque and the pull-out strength. That would be
 (25) the theoretical torque and pull-out strength.

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(1) Q. Okay. And so how would that assist you in
 (2) coming up with any conclusions in this case?

(3) A. Well, the real strength again relates to
 (4) the thin wall. And without actually testing the
 (5) component, to compare that set of test results with
 (6) the theoretical bond strength, I would not be able to
 (7) draw a conclusion until I actually did a test. And it
 (8) would have to be a statistical test.

(9) Q. All right. So you don't have any evidence
 (10) at all at this point in time as to whether the thin
 (11) wall as you describe and the other things that you've
 (12) described, whether or not the manufacturer of this
 (13) fork in question violated any type of industry
 (14) standards at all?

(15) A. No, I do not.

(16) Q. And in addition on page 2, you said, "In
 (17) addition, a desired destructive test to determine the
 (18) hardness and composition of the steerer tube and fork
 (19) crown would enhance and make specific the engineering
 (20) analyses contained herein."

(21) I'm a lawyer, not an engineer. What
 (22) do you mean by that?

(23) A. Okay. In the case of the failed steerer
 (24) tube and the fork crown, failed fork crown, if we
 (25) determined the hardness of those two components, that

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(1) gives us a rough estimate of the strength of those two
 (2) components.

(3) Q. Let me stop you. Why can't you do that
 (4) now since you got the bicycle?

(5) A. Well, we could do it, but it's
 (6) destructive.

(7) Q. All right. So --

(8) A. And, you know, at this point I didn't have
 (9) any -- when I wrote this report certainly I didn't
 (10) have any -- any permission to do destructive testing.
 (11) I think other experts needed to look at the
 (12) components. But that would at least give us strength
 (13) levels.

(14) Because there's a possibility that
 (15) the aluminum strength is quite a bit lower than the
 (16) steel strength. And therefore if in the interference
 (17) fit, if the aluminum yields plastically, it would
 (18) actually relax and lower the bond strength. So that's
 (19) an important measurement, but you have to combine that
 (20) with the specs -- the material specifications, to know
 (21) what the aluminum hardness should have been and
 (22) whether it meets that hardness or exceeds it. And the
 (23) same for the steel.

(24) Q. If it didn't meet the requirements,
 (25) because you have the steel meeting the aluminum,

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- (1) wouldn't we have more reports of separations? In this
 (2) apparently 8 million forks that have been
 (3) manufactured?
- (4) MR. SMITH: Objection.
- (5) Q. In this matter?
- (6) A. Well, again I would not know -- If it did
 (7) not meet the hardness; let's say this one particular
 (8) case did not meet the hardness. If it's a
 (9) heat-treated aluminum alloy for example, I would not
 (10) know whether it's a once-and-done condition or whether
 (11) it represents a number of, you know, forks that have
 (12) been manufactured.
- (13) Q. Right. When the forklift is manufactured
 (14) and we have the combination holding it together, are
 (15) you aware of any test that should be done to determine
 (16) what degree of force would be required to separate the
 (17) two? Separate the two metals?
- (18) A. No. I do not know of a -- now you're
 (19) talking about a quality control method? As opposed to
 (20) just a test to learn what the real bond strength is?
- (21) Q. Right.
- (22) A. Because there are really two conditions.
 (23) One is the overall quality control, while you're
 (24) manufacturing a large number of these. And the answer
 (25) to that is no. I really don't think you can even

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- (1) consider testing this mechanical joint because the
 (2) minute you break that joint you lose the strength, and
 (3) it's gone.
- (4) On the other hand, if you're trying
 (5) to determine what the level of strength is, and that's
 (6) strictly mechanical testing and destructive testing,
 (7) then there's certainly standard pull-out tests and
 (8) standard torque tests that would give you those
 (9) answers. But again you're destroying the sample. And
 (10) all that would do for you then is allow engineers who
 (11) are knowledgeable in the design of bicycles to know
 (12) where they are in the strength level of normal use of
 (13) that particular bike.
- (14) Q. Well, if they did that and they could tell
 (15) exactly what forces were necessary in order to
 (16) separate these two, then they could determine whether
 (17) or not their manufacturing and combining of these two
 (18) metals together to make a fork would be reasonably
 (19) safe for use in a bicycle, would they not?
- (20) A. True, with proper control. And the
 (21) biggest factor is the machining tolerance.
- (22) Q. Okay. But we again go back to you have no
 (23) information about the machining tolerance in this case
 (24) or you don't have -- you have no evidence aside from
 (25) the fact that you have the separation that the

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- (1) tolerance levels weren't in fact satisfactory or
 (2) adequate?
- (3) A. No. No, because the bond now is destroyed
 (4) and the dimensions are essentially destroyed.
- (5) Q. Let's go back to your report again. First
 (6) page. Again you refer to, paragraph Number 1, "The
 (7) thin-walled, hollow-steel, steerer tube was
 (8) mechanically press-fit and possibly thermally
 (9) interference fit into the steerer tube fork crown."
 (10) Why do you say possibly?
- (11) A. Well, because with such a small component
 (12) and a thin-wall component, the mechanical press fit
 (13) probably would be used to put it together. As opposed
 (14) to a thermal, you know, heat the outside diameter to a
 (15) higher temperature. That would be the thermal
 (16) interference fit condition.
- (17) Q. Okay. In your opinion which would be the
 (18) better?
- (19) A. Well, the more practical for this
 (20) thin-walled tube would be the mechanical press fit.
- (21) Q. But what would have a tighter fit?
- (22) A. Well, what you're -- what the thermal
 (23) interference fit allows you to do is to actually get a
 (24) bigger difference between the outside diameter wall
 (25) and the inside tube that you then open up by heating

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- (1) the outside diameter tube. And so you would -- you
 (2) probably could produce a higher strength with the
 (3) thermal interference fit.
- (4) Q. If you produce a higher strength with the
 (5) thermal fit, does that mean it's going to last longer?
 (6) Or what is the significance of that?
- (7) A. Well, again if your mechanical press fit
 (8) has a certain spectrum of strength levels, from low to
 (9) high, depending upon manufacturing conditions, and
 (10) your low level is just above a possible normal loss of
 (11) strength in normal use, then the interference fit
 (12) might bring you up higher on that strength curve and
 (13) make it possibly a less likely joint to be broken in
 (14) normal application.
- (15) Q. What significance is there that the
 (16) steerer tube had ridges in it?
- (17) A. Yeah, they do. It's a knurled, roughened
 (18) condition machined in.
- (19) Q. That was machined in during the
 (20) manufacture, right?
- (21) A. Yes. Yes.
- (22) Q. What significance or what is that --
- (23) A. Well, you're created lands and grooves in
 (24) order to actually increase the amount of tolerance for
 (25) the mechanical fit. In other words when you force the

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- (1) mechanical fit, you're really going to deform the high
 (2) points of that knurled machined condition. And so it
 (3) better finds and better grips the aluminum with the –
 (4) it's essentially a machined but roughened machine
 (5) surface to improve the gripping strength of the joint.
 (6) Q. And how it does improve the gripping
 (7) strength is because there are grooves or serrations in
 (8) the aluminum alloy tube?
 (9) A. No. I'm assuming, again I'm assuming. I
 (10) would assume the aluminum is probably smooth, and when
 (11) you push the steel into the aluminum, steel is
 (12) probably at least three times stronger than the
 (13) aluminum, it's going to force those grooves,
 (14) mechanically deform those grooves into the aluminum
 (15) alloy.
 (16) Q. So the aluminum alloy of the crown fork
 (17) would be smooth on the inside of what this picture
 (18) we're looking at now?
 (19) A. Yes, I think so.
 (20) Q. And when they put the steel tube into it,
 (21) it would thereby make corresponding ridges or
 (22) grooves –
 (23) A. In the aluminum, yes.
 (24) Q. In the aluminum because the steel is
 (25) stronger than aluminum?

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- (1) A. Right. It would make it flow.
 (2) Q. And that would cause for a tighter fit,
 (3) make it more difficult to become separated?
 (4) A. That's correct.
 (5) Q. And if you have a thermal bonding as
 (6) opposed to a mechanical fit, would that also be true,
 (7) too? As far as the grooves are concerned.
 (8) A. Well, the thermal bonding would increase
 (9) the interference. In other words you could use a
 (10) smaller hole in the crown fork and then grow it
 (11) thermally by heating it up.
 (12) MR. SMITH: I need you to stop for
 (13) just a minute.
 (14) (Discussion held off the record.)
 (15) MR. LOPATA: Could you read back the
 (16) last question, if it makes sense.
 (17) (Thereupon the reporter read the
 (18) previous question and answer from the record.)
 (19) THE WITNESS: And it would increase
 (20) the bond, the thermal expansion would increase the
 (21) bond strength of the joint.
 (22) BY MR. LOPATA:
 (23) Q. Right. And would you explain the
 (24) mechanics to me as to how once the fork has been
 (25) connected, what are the mechanics for loosening the

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- (1) combination or the actual jointure? That would cause
 (2) this to separate. If you know.
 (3) A. I would only make some assumptions as to
 (4) some possibilities. But I really don't know in the
 (5) case of the failed bike what caused it to become
 (6) loose.
 (7) Q. Okay. All right. So you can't give an
 (8) opinion on it one way or the other, you just don't
 (9) know?
 (10) A. I don't know. But if you overload this
 (11) joint, either in torsion or in tension, once it
 (12) becomes loose the joint is lost. It's going to be
 (13) loose from that point on.
 (14) Q. Where this jointer is, it's subject to
 (15) what kind of forces when someone's riding a bicycle or
 (16) using a bicycle?
 (17) A. Well, it's subject to at least the
 (18) hand-held both torsion and tension in – from the
 (19) handlebar use. Those forces, again I don't know the
 (20) numbers, but I would not expect them to be very high.
 (21) Q. What is not very high? The numbers?
 (22) A. The torsional force from normal use and
 (23) the tension from the handle – you know, pulling on
 (24) the handlebar for example or pushing on it. Those are
 (25) relatively small forces.

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- (1) Q. What happens if you have a person who's 6
 (2) feet tall and weighs 180 pounds and rides this bike
 (3) over sidewalks, curbs, things of that nature. What
 (4) kind of forces are exerted on the area where this is
 (5) joined together?
 (6) A. Well, the force goes up obviously with the
 (7) strength of the person, the weight of the person, the
 (8) speed at which you hit something. I mean all of that
 (9) increases force and therefore would put higher and
 (10) higher stress on a joint made such as this. But is it
 (11) high enough to break the joint? I really don't know
 (12) unless the joint is already down at a relatively low
 (13) strength level.
 (14) Q. Well, regardless of the strength level of
 (15) the joint, would it be fair to say that depending on
 (16) the forces on the joint level, that nothing is
 (17) indestructible?
 (18) A. Well, in general that's true. And the one
 (19) problem I have with a joint such as this is one
 (20) overload cycle will break this joint, forever. And
 (21) one overload cycle might be let's say the bike were
 (22) laying in the driveway and somebody backed over it and
 (23) bumped it.
 (24) Q. That would be an abuse of the bicycle?
 (25) A. Yeah, that would definitely be an abuse.

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- (1) You know. We have no record of abuse here, but. It
 (2) would take a high load to break the joint I think
 (3) initially. But only one load. And you probably
 (4) wouldn't know that it -- Initially you broke the
 (5) joint. You may use the bike for hours, days, weeks
 (6) before that actually -- once the joint is broken, then
 (7) it can be worked loose with normal operation. There's
 (8) no safety device on this to prevent it from pulling
 (9) out.
- (10) Q. Are you aware of any -- I take it you're
 (11) not aware of any industry standards concerning whether
 (12) there should be, quote, a safety device, quote, as you
 (13) just alluded to as of May 1987?
- (14) A. No, I'm not aware of industry standards,
 (15) concerning that.
- (16) Q. You're not aware of any statute or
 (17) regulations or anything, any type of requirements?
- (18) A. No. I don't know the business.
- (19) Q. In paragraph Number 1 you refer to thermal
 (20) expansion coefficients, et cetera, you say you've
 (21) attached to the report. Can you explain to me what
 (22) you're referring to, sir?
- (23) A. Yeah. The first attachment, Table A-7
 (24) entitled Physical Constants Of Materials, lists the
 (25) modulus of elasticity of a number of alloys and steels

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- (1) and irons. And what I was most interested in here,
 (2) the aluminum, the modulus of elasticity, the
 (3) essentially elastic stiffness of aluminum is only 10.3
 (4) in the first column. And if you look at carbon steel,
 (5) it's 30.
- (6) Now, this is a physical property,
 (7) and therefore the alloy content can vary widely, in
 (8) aluminum and in steel, and the strength can vary
 (9) widely. But the elastic modulus is a physical
 (10) property which remains relatively constant, within a
 (11) few percent, for all alloys of aluminum for example
 (12) and all alloys of steel.
- (13) So the fact that the aluminum is
 (14) only one-third as elastic as steel indicates to me
 (15) that you would lose essentially two-thirds of your
 (16) strength in an interference fit in which the aluminum
 (17) is on the outside diameter and the carbon steel is on
 (18) the inside diameter.
- (19) Q. Because the fit would only be as strong as
 (20) the aluminum alloy?
- (21) A. Yes. The aluminum is really giving up
 (22) three times the compressive -- in tension, it's giving
 (23) up three times the stretch of the carbon steel. And
 (24) that makes the joint weaker.
- (25) Q. Even though that they have been thermally

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- (1) bonded or mechanically fitted into place?
- (2) A. Yes. Either thermal or mechanical would
 (3) still see this difference. This is a physical
 (4) difference. It's fundamental. So it doesn't matter
 (5) how -- whether -- how you put it together.
- (6) And there's also going to be -- if
 (7) you try to thermally fit this together and get an
 (8) extreme interference fit, there's going to be a limit
 (9) from the aluminum strength. It will eventually yield.
 (10) And then that also gives you a limitation to the
 (11) aluminum.
- (12) Q. So as you force this thing in there and
 (13) it's in there as tight as it can possibly go, you're
 (14) saying over a period of time it's going to weaken.
- (15) Just because it's steel and aluminum.
- (16) A. No. What I'm saying is that the original
 (17) bond -- if you were forcing steel into steel, steel
 (18) OD, steel ID, you would have a bond strength that
 (19) would be three times what you're doing with aluminum
 (20) OD, steel ID.
- (21) Q. Right.
- (22) A. Because of the elastic modulus. So you're
 (23) starting out with a bond strength of this mechanical
 (24) fit that's one-third of steel to steel.
- (25) Q. Okay. But as we have establish -- I think

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- (1) as we have established here through your testimony,
 (2) the fact that it's not steel to steel doesn't
 (3) necessarily mean that it violates any industry
 (4) standards?
- (5) A. No. That's true.
- (6) Q. Okay. And my question to you, we have
 (7) aluminum and we have steel, and you stick it together
 (8) as hard as you possibly can get it together. Okay.
 (9) What causes it to separate then? What happens to the
 (10) metal? Is it something that happens to the metals or?
 (11) Or you don't know?
- (12) A. Yeah, I -- in the case of the failure, the
 (13) failed bike, I really don't know what happened. I can
 (14) speculate, but -- it obviously separated, so something
 (15) broke the bond. Whether it was normal use or some
 (16) overload condition, I really don't have the history
 (17) to -- but I can tell you that something, once the bond
 (18) is broken, it's only broken once.
- (19) Q. All right. In Number 3, you're talking
 (20) about "Mechanical and physical properties of carbon
 (21) steel and aluminum alloys are attached." You haven't
 (22) made any determination that this was carbon steel that
 (23) was in this Duotrack?
- (24) A. No. Again I'm quite sure it's steel,
 (25) because of its appearance. But I certainly don't know

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- (1) talking about earlier?
- (2) A. I could not identify it as a true wear
- (3) condition. It looked more like -- and again part of
- (4) the problem is if -- once this separates and you put
- (5) it back together again, you start doing damage that
- (6) really relates to your putting it back together after
- (7) it has separated. So my feeling is the lines that I
- (8) saw are probably related to people putting it back
- (9) together as opposed to this very subtle wear away.
- (10) Q. Are you aware of anybody telling you that
- (11) they tried to put it back together or --
- (12) A. I've heard that the steerer tube was back
- (13) in the -- into the crown fork. So somebody put it
- (14) back together.
- (15) Q. Yeah. Where did you get that information
- (16) from?
- (17) A. I think I heard that from --
- (18) Q. Mr. Smith?
- (19) A. Mr. Smith, yeah.
- (20) Q. He did it?
- (21) A. Oh, I don't think he did it. He wouldn't
- (22) do a thing like that.
- (23) MR. SMITH: No, I believe -- what
- (24) was his name? Mr. Tanaka did it. He made a special
- (25) trip.

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- (1) Q. So go back again. You saw some smearing
- (2) in --
- (3) A. Metal smearing, yeah.
- (4) Q. You also used another term. Smearing is
- (5) the one I caught, but you used another --
- (6) A. There was some scratches, that ran across
- (7) the grooves. Down the aluminum.
- (8) Q. I mean could that have been caused as a
- (9) result of the accident or this separation occurring
- (10) during the accident?
- (11) A. No, I think -- if we were able to look at
- (12) this when the separation first occurred, the grooves
- (13) would be relatively undamaged. Because there should
- (14) be no real twisting of this, you know, one component
- (15) in the other. So that I truly believe the smearing
- (16) and the scratches that ran across the grooves were
- (17) done after the fact, after the actual initial
- (18) separation.
- (19) Q. Because somebody was putting it back
- (20) together again.
- (21) A. I think so, yes.
- (22) Q. Now, when the separation occurred, the
- (23) steering tube according to you pulled out. From the
- (24) crown fork.
- (25) A. I'm reading the description I think

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- (1) from -- from Jesse in the deposition. He described
- (2) what he saw. I think he was --
- (3) Q. When he was doing the bunny hop, when
- (4) Mr. Lockwood was doing the bunny hop he pulled up on
- (5) the handlebars?
- (6) A. Yeah. I believe Jesse's deposition
- (7) indicated, you know, it just came up. I mean that's a
- (8) straight pull-out, from that description. Which
- (9) shouldn't leave you with any major -- you know, unless
- (10) this was loose to begin with.
- (11) Q. So what you're indicating, if I understand
- (12) what you're saying, is that this joining of these two
- (13) component parts had been loosened or disjoined before
- (14) he actually pulled up on the bicycle on the day of the
- (15) accident?
- (16) A. That would be my guess.
- (17) Q. We don't want you to guess.
- (18) A. That something would have broken -- that's
- (19) only a guess. Yeah. It's not based on -- again you'd
- (20) have to do a lot of testing in order to really come to
- (21) the final conditions of whether or not normal use
- (22) would break this joint apart.
- (23) Q. Or any abuse to the bicycle between the
- (24) time he purchased the bicycle in May 7th -- or May
- (25) 1997 up until June '99?

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- (1) A. To me the bunny hop, which is a slight
- (2) hop, only puts you up a small amount in height. Now,
- (3) I actually made a calculation a long time ago on a
- (4) bike pedal? And the man was 265 pounds, a policeman,
- (5) in which the bike failed, and he was injured. And
- (6) there he jumped from 2 feet. And I was able to
- (7) calculate the actual force on the pedal because it was
- (8) bent. And there I did hardness and destructive
- (9) testing and so forth.
- (10) But 2 feet and a few inches for a
- (11) bunny hop are far different in terms of the amount of
- (12) force coming back down. It's probably a lot more
- (13) force if you hit a curb because -- and again it
- (14) depends now on your weight, speed, and other factors,
- (15) compared to jumping over something.
- (16) Q. So your opinions on -- concerning this
- (17) accident depends on the fact that the bike was not
- (18) abused in any way that would have affected the bonding
- (19) of the fork? Prior to the date of the accident, June
- (20) 9th, 1999. Correct?
- (21) A. Well, again I don't have the numbers to
- (22) back up an opinion on that. But I think the -- one of
- (23) two things could be occurring here. One is you have a
- (24) joint that's right on the borderline of normal use
- (25) breakage. That would be one possibility.

BSA

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(1) The other possibility is you have a
 (2) joint much stronger than anything that you can do to
 (3) it in normal use and you had an event somewhere along
 (4) the way that may have broken that joint. And it could
 (5) have been an event that nobody really noticed or knew
 (6) about. And once the joint is broken, then normal use
 (7) can really make that wear slightly and separation
 (8) would occur.
 (9) Q. So either one of those possibilities are
 (10) equally possible?
 (11) A. Yes. I don't have a firm opinion because
 (12) I don't have the — either the background or the
 (13) measurements.
 (14) Q. So it could be either way, you just can't
 (15) tell?
 (16) A. Yes.
 (17) Q. So then as far as your summary is
 (18) concerned on page 2, "The press-fit and/or the thermal
 (19) interference fit between the thin-walled hollow
 (20) steerer tube and the nonferrous fork crown of the
 (21) bicycle in question is inadequate, unsafe;" you can't
 (22) really say that, can you, because you don't have the
 (23) facts, because you don't know what the strength was?
 (24) A. Let's see. Where is that.
 (25) Q. In summary.

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(1) A. Summary. Oh, in summary. Well — okay.
 (2) It's certainly in question — I strongly believe that
 (3) type of mechanical joint could be inadequate.
 (4) Q. I understand.
 (5) A. So "is" probably is not the right word.
 (6) Q. So you're saying it's possible?
 (7) A. It's possible.
 (8) Q. But you can't say it's probable?
 (9) A. I think that type of joint is unsafe
 (10) because there is no real safety. Once it's broken,
 (11) it's really on the road to separation. And it cannot
 (12) be retightened or inspected. And that's true probably
 (13) of any joint that may be put there. But most joints,
 (14) if they're welded, brazed, or even bonded with an
 (15) adhesive, are probably a higher quality, higher
 (16) strength joint than what we're dealing with here.
 (17) Q. But you're not aware of any industry
 (18) standards in May of 1997 that called for if a fit has
 (19) been broken, that it should be able to be retightened
 (20) or inspected. You're not aware of any?
 (21) A. No. All the joints I'm aware of are
 (22) once-and-done manufactured joints.
 (23) Q. And once —
 (24) A. So that's true. They cannot be
 (25) retightened.

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(1) Q. And they can't be inspected because of
 (2) where they are when you're looking at them?
 (3) A. That's correct, yes.
 (4) Q. The only way you can tell is if you
 (5) actually did a test for that specific purpose?
 (6) A. Well, again the test would be a
 (7) destructive pull test or a torque test. But it's not
 (8) a functional test.
 (9) MR. LOPATA: Thank you.
 (10) MR. SMITH: I actually have some
 (11) questions.
 (12) ***
 (13) EXAMINATION
 (14) BY MR. SMITH:
 (15) Q. The bond in this case broke?
 (16) A. Yes.
 (17) Q. Now, if a bond in a bicycle like this
 (18) which is hidden breaks through normal and expected
 (19) use, that would be a defect?
 (20) A. Yes.
 (21) MR. LOPATA: Objection.
 (22) Q. Now, what you're saying is because no
 (23) information has been supplied to you by the
 (24) manufacturer, who deals directly with the fork
 (25) manufacturer so should be able to get the information,

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(1) they have been unable to get that to you, you have
 (2) been unable to test any of your hypotheses but based
 (3) on your knowledge of engineering principles and the
 (4) attachments that you had, this particular bonding,
 (5) it's a thermal — if it's a —
 (6) A. Mechanical.
 (7) Q. — mechanical fit of the aluminum alloy on
 (8) the outside to the hollow metal steerer tube on the
 (9) inside is not as strong as steel to steel?
 (10) A. Yes.
 (11) Q. And based on everyday and normal use in
 (12) changing weather patterns, the aluminum can expand in
 (13) such a way that it would lead to an increased
 (14) likelihood of the bond becoming loosened and therefore
 (15) damaged?
 (16) MR. LOPATA: Objection. No evidence
 (17) in this case. But go ahead.
 (18) A. Yeah. It's certainly — in hotter weather
 (19) it's going to be — the bond strength is going to be
 (20) lower.
 (21) Q. And the only reason you haven't been able
 (22) to test anything is because the materials haven't been
 (23) supplied.
 (24) MR. SMITH: I will represent that we
 (25) didn't do the destructive testing because I had said

EXHIBIT 3

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND
NORTHERN DIVISION
CIVIL ACTION NO.: WMN-02-CV-2068

WILLIAM LOCKWOOD,
Plaintiff,
v.

PACIFIC CYCLE, LLC, AND TOYS "R"
US-DELAWARE, INC.,
Third-Party Plaintiffs,
v.

SR SUNTOUR, INC., AND SR SUNTOUR,
USA,
Third-Party Defendants.

DEPOSITION OF:
JAMES M. GREEN

On Monday, April, 14, 2003, commencing at 1:05 p.m.,
the deposition of JAMES M. GREEN was taken on behalf of the
Defendant at the offices of Asheville Reporting Service, 66 N.
Market Street, Asheville,, North Carolina, and was attended by
Counsel as follows:

APPEARANCES:

MICHAEL P. SMITH, ESQ.
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on behalf of the Plaintiff,

EDWARD J. LOPATA, ESQ.
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on behalf of the Defendants.

REPORTED BY: Rebecca A. Geldres, CVR
ASHEVILLE REPORTING SERVICE

manufacture of SR Duo Track 7006 in 1995 or 1996, when they were manufactured?

A Not at that time when this was manufactured. The only written -- well, there are two written standards. One is the CPSC standards and the other is the ISO standards. International Safety Organization standards are fork deflection standards also. They're not mechanical bond or front fork standards.

Q Are there any standards in the industry or statutes, regulations, whatever, concerning how the fit occurs? Can it be thermal bond? Can it be like a mechanical press-fit bond? Does it have to be welded? Does it have to have epoxy or something in there?

A No. There's no standard -- there's no written standards in the industry on that.

Q Are there any ---

A In 1995 or today, for that matter.

Q Are there any statutes, rules or regulations, anything like this?

A No.

Q In your report, you indicate that this Duo Track 7006 was defective because it didn't have a weld to connect the steering tube into